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## Context



Students who always skipped breakfast showed lower levels of cognitive engagement, and engagement with their teachers and school climate.

Moller, Sincovich et al. (2021)

Breakfast skipping is prevalent amongst Australian school children

Sincovich, Moller et al. (2022)

## Does Breakfast Skipping affect Academic Performance in Australian school children?

### Literature Review

- Breakfast consumption/quality has been associated with improved cognition and classroom performance (through objective measures) in school children

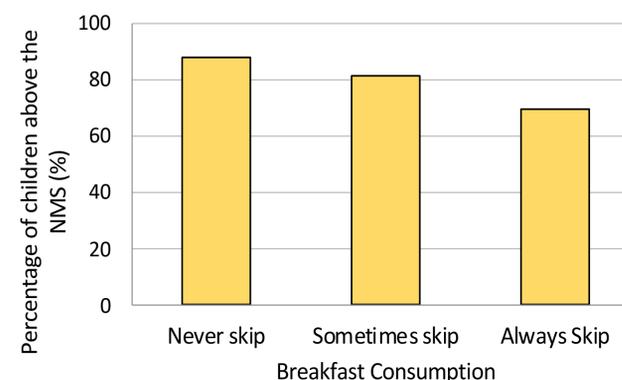
- Breakfast skipping is associated with other negative health outcomes such as poor diet and habits, higher risk of childhood diabetes, and lower levels of emotional wellbeing.

- Quantitative/objective evidence showing the relationship between breakfast skipping and academic achievement has not yet been found

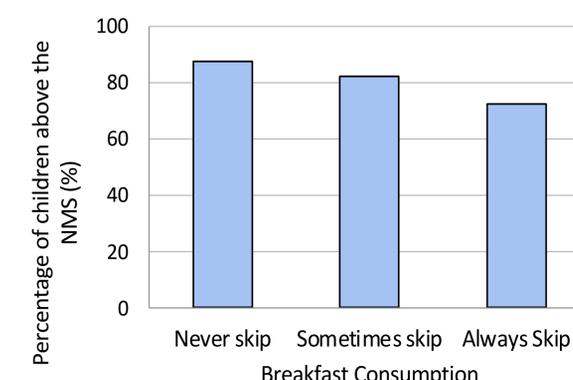
## Results

It was shown that a higher percentage of children who never skip breakfast score above the NMS in all NAPLAN tests as compared to children who sometimes skip, and always skip breakfast.

Breakfast and NAPLAN Performance (Numeracy)

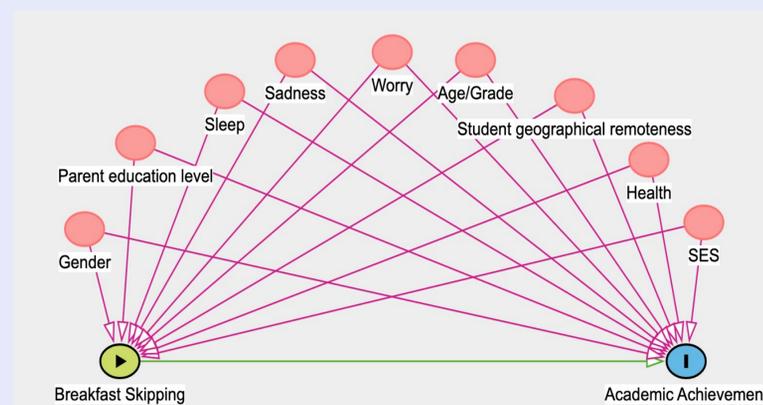
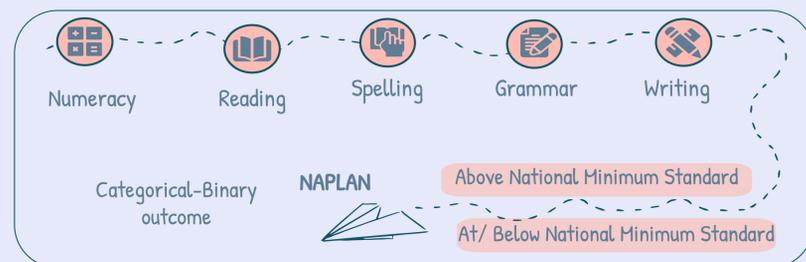
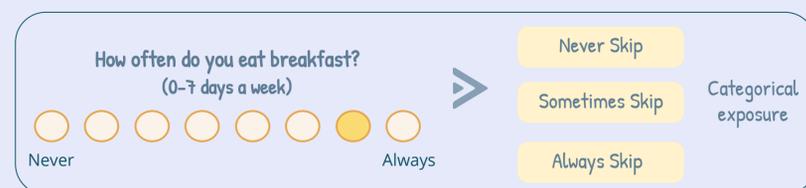


Breakfast and NAPLAN Performance (Reading)



Descriptive Statistics	Numeracy		Reading		Spelling		Grammar		Writing	
	Below/At NMS	Above NMS								
Never skip	12.3%	87.7%	12.4%	87.6%	15.5%	84.5%	16.8%	83.2%	24.3%	75.7%
Sometimes skip	18.7%	81.3%	18.0%	82.0%	19.7%	80.3%	23.8%	76.2%	29.4%	70.6%
Always Skip	30.4%	69.6%	27.5%	72.5%	27.2%	72.8%	34.2%	65.8%	38.2%	61.8%

There is a **statistically significant relationship between breakfast skipping and academic performance** in NAPLAN - Children who skipped breakfast were up to 2.5 times more likely to score below the NMS.



## Sample & Measures

- 2021 WEC data (n=97,440): children in grades 5, 7 and 9 with breakfast skipping data linked to NAPLAN scores (n=24,384)

- Breakfast skipping data: extracted and categorised from WEC survey

- NAPLAN scores: categorised into whether they were above, or at/below the national minimum standard (NMS) (NMS - a benchmark set by NAPLAN to access a student's readiness to progress through grades)

## Controlled variables

Directed Acyclic Graph (DAG) shows confounding variables which independently influence the exposure (breakfast skipping) and Academic Achievement (Outcome).

Included to ensure that the effect of breakfast skipping on NAPLAN scores were adjusted for external factors.

## Future Directions

- Evaluate the quality of breakfast consumed
- Conduct longitudinal studies to investigate the effect of time on the impact of breakfast skipping.

## Acknowledgements

I would like to thank TKI, and my advisors Alanna Sincovich and Dr Tess Gregory for their guidance through my project. I would also like to thank the CHW for allowing me the opportunity to explore child health through research. During my time in Adelaide, I was able to grow and develop my skills by learning from several mentors. I was also given the opportunity to work independently on the groundwork for the next research paper by the NHMRC team at TKI, which exposed me to many facets of the research process I had not previously been involved in.



WEC - annual, country-wide confidential survey meant to evaluate the level of student wellness. STATA software was used to analyse raw data from the WEC responses.